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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,459	06/01/2006	Hans-Joachim Hahnle	291264US0X PCT	2316
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER CORDRAY, DENNIS R	
			ART UNIT	PAPER NUMBER
			1791	
			NOTIFICATION DATE	DELIVERY MODE
			05/25/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/581,459	Applicant(s) HAHNLE ET AL.	
	Examiner DENNIS CORDRAY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/27/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/27/2010 has been entered.

Response to Arguments

Applicant's amendments and arguments, filed 4/27/2010, have overcome all outstanding rejections over the cited prior art. The primary references, Lai et al and Hartmann et al teach addition of vinylamine containing polymers to pulp in amounts greater than that currently claimed and, for reasons given in the remarks, would not provide motivation to add the polymers in amounts within the claimed range. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejection are made as detailed herein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

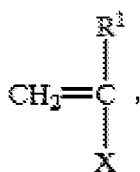
Claims 4-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kuo et al (US 6273998) and, if needed, as evidenced by Varveri et al (US 3639208).

Claims 4-7 and 9: Kuo et al teaches a general method of manufacturing paper and paperboard comprising processing an aqueous pulp fiber suspension by rapidly draining (or dewatering) the suspension in the sheet forming area of a paper machine using a wire screen. Although not explicitly disclosed, depositing the suspension on the wire is inherent in the process or, at least, would have been obvious to one of ordinary skill in the art. Drainage and retention aids are used to aid in water removal (col 1, lines 12-16 and 46-59). The pulp suspension commonly comprises pigments, fillers, and other additives (e.g.-titanium dioxide) Calcium carbonate is used as a filler in examples (col 1, lines 15-22; col 12, lines 30-35; col 14, lines 61-67).

Kuo et al discloses adding to the pulp suspension a drainage and retention aid comprising microparticles and a cationic vinylamine copolymer. Note that the open language of the claims allows using the microparticle in addition to the cationic

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vinylamine copolymer. The vinylamine copolymer comprises, in some embodiments, from 1-99 mol-% vinylamine units, from 0-50 mol-% N-vinylformamide and from 1-99 mol-% other monomers (Abs, col 4, lines 13-64; col 6, lines 65-67). The vinylamine polymer is formed by first copolymerizing an N-vinylamide monomer (such as N-vinylformamide) with a comonomer having the general formula



where R^1 is H or CH_3 and X is CN , COOR^2 , CONR^3R^4 , OR^5 , OCOR^6 , , and

mixtures thereof; wherein R^2 to R^6 are H or C_1 to C_4 alkyl. The disclosed comonomers read on many of the claimed comonomers. The copolymers are hydrolyzed partially or completely with an acid or base to form the cationic copolymer (col 8, line 13 to col 9, line 11).

The vinylamine copolymer is typically added to the pulp suspension in an amount from 0.005% to 0.5%, most preferably from 0.02% to 0.1%, by weight of the dry pulp, which overlays the claimed range. One of ordinary skill in the art can readily determine appropriate dosage amounts by conventional techniques (col 10, line 66 to col 11, line 10).

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In some examples, the pulp is a bleached Kraft and contains 30% calcium carbonate filler (col 14, lines 61-67). The ratio of the disclosed typical amount of added copolymer to filler overlays the claimed range.

Kuo et al does not disclose fixing the cationic polymer and filler particles in the pulp or the claimed ash content. However, the composition formed is substantially the same as the disclosed composition and the polymer and filler particles will be fixed in the pulp to give the claimed ash content or, at least, obtaining the claimed ash content would have been obvious to one of ordinary skill in the art because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent or at least obvious.

Alternatively, the function of a retention aid is to bind the fillers to the cellulosic fibers (if evidence is needed see Varveri et al, col 1, lines 23-29) thus fixing the cationic polymer and fillers in the pulp, and the claimed ash content will be obtained for reasons given above.

Claim 8: Kuo et al does not disclose the end use of paper made by the process. Absent convincing evidence of unobvious results, it would have been obvious to one of ordinary skill in the art to use the paper as a base paper for making any kind of paper, including the claimed products.

Claim 8 is also rejected under 35 U.S.C. 103(a) as unpatentable over Kuo et al in view of Takahata et al (US 3933558), Snow et al (US 5830318) or Koichi et al (JP-09-217292, machine translation used and included with the Office Action).

The disclosure of Kuo et al is used as above. Kuo et al does not disclose the kinds of paper made.

Takahata et al discloses a laminated decorative sheet (construction material) comprising a base paper loaded with titanium-oxide or other filler to impart desired color or opacity (Abs; col 3, lines 22-32).

Snow et al discloses a cigarette tipping paper comprising from 20% to 40% by weight of calcium carbonate to impart opacity (Abs; col 3, lines 38-40).

Koichi et al discloses a filled paper comprising from 5 to 35 parts (based on 100 parts bone dry weight) by weight of a mixture of calcium carbonate and titanium dioxide to impart opacity and whiteness. The papers made include India paper (Abs; pars 0001, 0002 and 0018).

The art of Kuo et al, Takahata et al, Snow et al, Koichi et al and the instant invention is analogous as pertaining to papers containing calcium carbonate and/or titanium dioxide. It would have been obvious to one of ordinary skill in the art to make a base paper for the claimed paper products using the process of Kuo et al in view of Takahata et al, Snow et al or Koichi et al to obtain the opacity needed for the products.

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Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utecht et al (US 6184310) in view of Carr (US 2004/0250972) and further in view of Takahata et al, Snow et al and Koichi et al, and as evidenced by Lai et al (EP-331047 A).

Utecht et al discloses polymers containing vinylamine units made by converting from 0.1% to 100% of the formyl groups to vinylamine by acid hydrolysis in a polymer containing N-vinylformamide units. At least 0.1 mol-%, of the vinylamine units are further converted to carbamate moieties (Abs; col 2, lines 4-21 and 33-55; col 3, line 59 to col 4, line 39; col 6, lines 1-7), which leaves in some embodiments the majority of vinylamine units unconverted. Note that the open language of the instant claims does not preclude additional reaction of some of the vinylamine units. The claimed additional monomers copolymerized with the N-vinylformamide are disclosed (col 2, line 56 to col 3, line 58). The polymers made by acid hydrolysis are cationic (see Lai et al p 5, lines 24-39 if evidence is needed).

The polymers are used as retention and drainage aids and as fixatives for making all known paper, paperboard and cardboard grades by adding them to the stock from 0.01% to 0.1% by weight of the dry fiber. Many of the claimed pulps are disclosed. Suitable fillers used in making papers include chalk (calcium carbonate) and titanium dioxide (col 6, line 56 to col 7, line 7; col 7, lines 14-18).

Utecht et al does not disclose the claimed papermaking process or ash content.

Carr teaches that a typical process of making paper generally known in the art that comprises feeding an aqueous suspension containing cellulosic fibers, and optional

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fillers and additives into a headbox, ejecting the suspension onto a forming wire, and draining the water from the web. Retention aids are added to the stock to increase the adsorption of fillers onto the cellulosic fibers (p 1, pars 3 and 4).

Carr does not disclose the claimed ash content.

Takahata et al discloses a laminated decorative sheet (construction material) comprising a base paper loaded with titanium-oxide or other filler to impart desired color or opacity (Abs; col 3, lines 22-32).

Snow et al discloses a cigarette tipping paper comprising from 20% to 40% by weight of calcium carbonate to impart opacity (Abs; col 3, lines 38-40).

Koichi et al discloses a filled paper comprising from 5 to 35 parts (based on 100 parts bone dry weight) by weight of a mixture of calcium carbonate and titanium dioxide to impart opacity and whiteness. The papers made include India paper (Abs; pars 0001, 0002 and 0018).

The art of Utecht et al, Carr, Takahata et al, Snow et al, Koichi et al and the instant invention is analogous as pertaining to papers containing fillers. It would have been obvious to use papermaking stock comprising common additives and generally known papermaking process to make a paper from a slurry containing the claimed filler and the claimed amount of a vinylamine containing polymer of Utecht et al in view of Carr and further in view of Takahata et al, Snow et al or Koichi et al to obtain a filled paper having good retention of the filler. It would further have been obvious to make a base paper for the claimed kinds of papers to provide the disclosed opacity needed for the products. It would further have been obvious to obtain the claimed ash content

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corresponding to the filler content of the disclosed papers. The ratio of the amount of vinylamine disclosed by Utecht et al to the filler content of the papers of Snow et al and Koichi et al overlays the claimed range.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason L Lazorcik/
Primary Examiner, Art Unit 1791

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/Dennis Cordray/
Examiner, Art Unit 1791